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# Achieving change in the NHS: a study to explore the feasibility of a home-based cancer chemotherapy service

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## Abstract

A major focus of current health policy in the United Kingdom is the development of services that meet the public's expectations. To achieve this there is a need to evaluate current provision to ensure that the best use is made of finite resources. The study reported here adopted an interview approach to examine an existing outpatient chemotherapy service, and to consider the feasibility of introducing a home based model. Following a review of literature on this topic data were obtained from in-depth interviews with patients and professionals regarding the present service. These were then combined with an analysis of service contracts and financial estimates. The poor quality of much of the cost-related information limited the conclusions which could be drawn, and emphasised the need for access to more accessible and robust financial information upon which to base change. The study also illustrated the benefits of feasibility studies; especially when cost-effectiveness and patient satisfaction are the driving forces behind proposed changes to clinical services.

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## 1. Introduction

The study reported here was instigated against a background of changing patterns of cancer services led by the United Kingdom Department of Health (DoH) (DoH, 1997). The Calman-Hine Report (DoH, 1995), now implemented as a National Service Framework, stressed the importance of providing effective, integrated, patient centred services and established a network of Cancer Centres and Units across the country. This was emphasised again more recently in the National Plan (DoH, 2000a) and National Cancer

Plan (DoH, 2000b). Clinical Governance (DoH, 1997) was also introduced to encourage additional quality improvements in healthcare provision (through the promotion of clinical effectiveness, increased accountability and scrutiny of services by independent agencies such as the Commission for Health Improvement). The National Cancer Plan, in particular, stressed the importance of combining clinical and cost-effectiveness evidence with the views of users to determine how future services should be developed (DoH, 2000b). In a climate of such rapid change, cancer services are expected to be more relevant and responsive to patients' needs. However, research evidence is also required to assess the acceptability and effectiveness of service changes to local populations. Such evidence is not always easy to obtain given the complexity of the UK National Health Service (NHS), as the study reported here will demonstrate.

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Health professionals at a central London teaching hospital and designated Cancer Centre set out to investigate the possibility of establishing a home-based chemotherapy service. The construction of a large, single site hospital building, which will provide less inpatient and outpatient treatment space for patients with cancer, also prompted a review of the existing outpatient service and alternative systems of care delivery. In turn, this led to discussions across professional groups and the development of this multidisciplinary research project, led by nurses, to further investigate this issue.

## 2. Focus of the study

The focus of this study was the review of the existing outpatient chemotherapy service and the feasibility, acceptability and cost-effectiveness of a home-based alternative. It was envisaged that the research would take place in two stages. Firstly, an interview approach would be adopted to examine the existing outpatient chemotherapy provision and to assess the feasibility of providing a home based chemotherapy service (Silverman, 2000). This would initially focus on patients with colorectal cancer as they were thought to be more amenable to the concept of home-based treatment due to the relatively low toxicity of their chemotherapy regimens (Perry, 1992). Thereafter, a cohort study was envisaged that would compare the proposed home-based approach with the existing service. The first stage of the study involved reviewing the existing literature around home-based chemotherapy, quality in cancer care and barriers to organisational change.

## 3. Literature review

Literature searches were carried out using the following databases: Medline, CINAHL, CancerLit, the Cochrane Database Library and University of York NHS Centre for Reviews and Dissemination (CRD) database. Hand searching of additional 'grey' sources was also carried out (such as self-help literature). Initially, searches of Medline and CINAHL were conducted using the key words 'cost', 'treatment', 'outpatients', 'home-care', 'cancer' and 'economics'; these were then cross referenced. Searches of all the above databases subsequently included additional key words including 'chemotherapy', 'colorectal cancer', 'quality of life', 'patient satisfaction', 'economic evaluation', 'hospital at home' and 'organisational change'. The searches were limited to studies carried out in the UK, Europe, North America and Australia during the past fifteen years. A summary of the key findings from this review literature now follows.

## 4. The costs of cancer care

Cancer is a significant cost burden, not just for individuals and their family, but also at a societal level (Hawkes, 1999). In a previous publication, members of the research team explored the different dimensions of 'costs' that should be considered when economic evaluations of cancer care are being considered (Pearce et al., 2001). These include the human and financial costs of cancer that impact at the level of the individual patient as well as the Health Service as a whole. Theoretically, comprehensive economic evaluations include all the costs and benefits attached to a particular intervention or service. In practice, however, this may be difficult to achieve (Briggs and Gray, 1999). Whilst some have argued the case for robust economic evaluations of nursing itself (e.g. Pearce et al., 2001; Jenkins-Clarke, 1999; Newbold, 1995), comprehensive financial studies of the profession's interventions are actually rare in the UK. The largest concentration of effort has been directed towards the evaluation of particular healthcare technologies or other therapeutic interventions. A major finding from a systematic review of 492 economic evaluations in healthcare concluded that uncertainty should be more openly acknowledged in the reporting of results. Similarly, reference cases should be adopted and comparisons between studies using different methods should be avoided (Briggs and Gray, 1999).

The literature review identified cost-based concerns relating to cancer which fell into three main categories. These include the cost-effectiveness of cancer treatment itself (Richards et al., 1993); the hidden, indirect or 'out of pocket' costs of cancer which are often absorbed by patients and their families (Moore, 1998) and the 'human costs' of cancer such as quality of life, symptom distress and patient satisfaction (McCorkle et al., 1994; Mor et al., 1987; Sitzia and Wood, 1997). Although there is now a more overt drive towards developing patient-focused healthcare (Coulter, 2002), and to develop health services which are generally more cost-effective (Kernick, 2000), there has a notable lack of empirical research on these topics in the UK context. From the perspective of those involved in practice, change most often seems to be driven by expediency rather than systematic planning or teamwork (Firth-Cozens, 2001).

Home-based chemotherapy itself has become possible as a result of the introduction of technological innovations such as continuous and portable infusion devices. Providers of home-based chemotherapy services (which may include private companies at present in the UK) claim that this helps to maintain patients' lifestyle with minimal disruption to daily activities. It is also suggested that, when possible, home-based chemotherapy offers a safe, effective and cost-effective option that may enhance patient control and independence during cancer

treatment (Garvey and Kramer, 1983; Malone et al., 1986). However, home-based models may also stem from inpatient resource constraints as well as the growing emphasis being placed on patient-centred philosophies in healthcare generally (Ingleby et al., 1999a; Marks, 1991).

The majority of evaluations of home based chemotherapy services originate from the United States. Few studies in the UK have, as yet, attempted to comprehensive evaluations of this approach to cancer care. Furthermore, there is lack of research examining the relationship between home-based treatment and its impact on service costs and related concepts such as quality of life, disease outcomes or patient satisfaction. Few researchers have explored the cost benefits of hospital at home schemes; or the benefits to users or professionals of home based chemotherapy services as opposed to traditional outpatient models. The few UK published papers that were available on this topic proved largely descriptive (e.g. Dougherty et al., 1998; Voogt and Richardson, 1996; Watters, 1997). Others described studies that focussed on the acceptability of service changes using patient satisfaction approaches (e.g. Hooker and Kohler, 1999), or the impact of particular therapeutic interventions on patient's quality of life (e.g. Payne, 1992).

There are conflicting conclusions within the existing literature concerned with home-based chemotherapy. Definitive comparisons between the few studies available are difficult to draw due to disparate settings and populations being examined, as well as a wide range of methods, or even terminologies, being employed by researchers. One paper of particular relevance was a pilot study conducted by Ingleby et al. (1999a,b) assessing the feasibility, and related cost-benefits, of a home-based chemotherapy service for patients ( $n = 25$ ) with advanced colorectal cancer. The authors concluded that home-based approach was at least as cost-effective, or even less expensive, than hospital-based management. The study employed 'Unit costs of health and social care' (Netten et al., 1998) to obtain standardised hospital costs; including those relating to outpatient appointments and inpatient stays. The researchers did not, however, include indirect patient costs (such as those relating to transport or loss of wages). They also reported difficulty in logging all the costs of the home-based option (such as administration, telephone advice time, problem solving resources and the co-ordination of staff). The findings were presented as mean weekly costs of treatment using three different drug regimens in both the home and hospital setting.

Despite some apparent advantages of home-based chemotherapy, more robust and well-designed trials are clearly warranted. However, there is also the need to take into account the impact on General Practitioners, a well as the nursing and other members of the primary

health care team. Each would be required to play a supporting role in home based chemotherapy. In addition, trials should also question the impact that home chemotherapy may have on patients and families themselves (Zalcborg et al., 1996).

#### 4.1. Changing cancer services

Literature relating to achieving organisational change, including recent NHS reforms by the Department of Health (DoH) was also accessed to gain an insight into these issues in relation to cancer care. This was particularly pertinent as major policy documents, such as the NHS Plan (DoH, 2000a) and the National Cancer Plan (DoH, 2000b), were launched during the course of the study.

Although a sizeable body of literature on the management and implementation of change does exist, less attention has been focused on how change can best be achieved within health care bureaucracies (Garside, 1998). It is suggested that change may be resisted for a number of reasons including a perceived lack of time; individuals protecting their 'territory', value being placed on historical traditions or an absence of trust in those proposing the change (Enthoven, 2000). Health care organisations are usually highly structured and hierarchical in nature which further reinforces demarcations between people's status and level of influence (Garside, 1999). In such a context managers may be perceived as being concerned only with financial control and efficiency, whilst professional groups regard themselves as the guardians of clinical and professional standards (Sutherland and Dawson, 1998). It is also suggested that managed change may be difficult to achieve as the theory underpinning it seems far removed from the reality of busy, unrelenting healthcare systems:

Much is said and written in the field of organisational behaviour which seems to have little or no connection with the efforts to improve patient care in hospitals or primary care settings, but the jargon is a barrier and the theory seems to be arcane (Garside, 1998, p. 8).

Overall, there appears to have been a lack of planned and implemented programmes of change in the NHS (Garside, 1998). External pressures, such as constant shifts in health policy and rising public expectations, as well as those arising from the organisation itself, such as its history, culture and the norms and attitudes of its staff, require equal consideration when change is planned. However, as Klein (1998) suggests, it is even difficult for 'rational' decisions to be made about service developments given the inadequate, incomplete and ambiguous nature of the information available about health care costs. Decision-makers may often have to

rely on outdated, or overly generalised, clinical and financial databases when commissioning new or additional services (Enthoven, 2000).

There may be scope for improvement in light of recent UK health policy initiatives. The NHS Plan (DoH, 2000a), for instance, emphasised the need for more patient-centred care models and recommended that changes in working patterns should be encouraged, where necessary, to achieve this. Health and social care services have been brought together in the establishment of primary care trusts (PCTs). Theoretically, these should have more freedom to commission innovative, locally responsive, cancer care services. In addition, local self-help organisations, working in tandem with the Cancer Networks, should have the capacity to identify the most effective use of resources and develop strategic cancer plans based on local need and drive change forward (DoH, 2000b). Such large scale changes, together with improvements in standard NHS cost data, may help to facilitate meaningful change, as well as allowing cost-based comparisons to be made both within, and across, health care organisations (Garside, 1998).

## 5. Aims of the study

Against this background, this study aimed to explore current service provision and assess the feasibility, and possible cost impact of developing a home-based chemotherapy service. The key objectives were:

- To review the available literature regarding the costs of cancer, home based chemotherapy and change management
- To gather the views of a sample of health care professionals, managers and patients concerning current chemotherapy service, as well as their opinions regarding a possible home based service.
- To examine how service costs are currently calculated in the organisation, and assess these in relation to the present chemotherapy service.

It was anticipated that the research team would then proceed to compare one (private) home-based chemotherapy service with the current outpatient model. It was envisaged that this would provide appropriate evidence before any more widespread changes to the chemotherapy service were instigated.

## 6. Methods

### 6.1. Sample

Semi-structured interviews were conducted with 12 professionals and five patients with colon cancer.

Professionals were selected due to their involvement in the provision, management or commissioning of outpatient chemotherapy services. The sample included consultant oncologists; chemotherapy nurses; a pharmacist; nursing, directorate and financial managers and the local lead commissioner of cancer services. The five patients were undergoing outpatient chemotherapy for colorectal cancer with 5-fluorouracil (5-FU). The study was submitted and approved by the local Research Ethics Committee. All professionals were invited to participate in the study personally by letter. Nurses working in the outpatient chemotherapy service first approached the patients. Written consent was then obtained from all the participants after the researcher explained the purpose of the interview.

### 6.2. Interviews

Interview prompts were developed from the background literature and the researcher team's experience of the current service. Professionals were asked to comment on the current service, to discuss their knowledge of the contracting processes and cost issues (if known), the role they played in service developments and how they saw the service changing in the future. Finally, the feasibility of a home-based service was discussed. The patients were asked about their experiences of outpatient service (including travelling to the clinic, side effects and their general satisfaction with care). The financial impact of their illness and its treatment were also explored, as well as their views on the proposed home-based approach. The interview prompts were piloted and revised prior to use.

The interviews took place over a three-month period between February and April 2000. With the participants' consent, interactions were tape recorded and transcribed verbatim. Transcripts were then analysed thematically on a line by line basis by two researchers working independently. Notes were made about the extent to which opinions diverged on the same topic. Exemplar quotes were then identified (Silverman, 2000). Finally, the interview themes were then combined with the contract and cost data that were subsequently obtained from the NHS Trust involved.

### 6.3. Contract and cost analysis

Interviews with professionals provided their insights into the existing contracting processes and cost basis of the existing outpatient chemotherapy service. Further data were also sought from an analysis of relevant documentation (such as financial reports and contracts). Participants with a management remit were invited to discuss the contracting process itself (such as the level of income generated from purchasers), as well as activity measures and costs related to the outpatient



chemotherapy service (such as staff and drugs costs, other consumables, patient transport and capital charges). Where necessary, published information was used to estimate these figures by referring to The New NHS 1999 Reference Costs (DoH, 1999). Sensitivity analysis was carried out where obvious uncertainty existed. Data from each of the above sources were then combined and a summary of findings is now provided.

## 7. Findings

### 7.1. Views on current service provision

All the patients were generally satisfied with the care they received at present. Any negative comments related to non-clinical aspects of care such as long waiting and journey times. This was a similar finding to Sitzia and Wood (1998) which involved a larger sample of cancer patients. As one of the patients stated:

Oh crumbs, I was more than satisfied. They were absolutely wonderful, each one. There was nothing I would change. It was all first class.

There was also concern amongst the professionals about the long waiting times experienced by patients. The way that the present service was configured contributed to this problem. For instance, delays occurred between the ordering of chemotherapy drugs and their arrival in the clinic. In addition, the journey involved for patients to actually attend the chemotherapy service compounded delays (this was especially true for those relying on hospital transport). All five patients reported being delayed up to 5 h at the hospital at least once during each treatment cycle. Not surprisingly, those who also used hospital transport were least satisfied in terms of delays and inconvenience. However, transport was also a significant problem in relation to the cost of attending for treatment. As one patient said:

I have a one-way ticket; to go there and back is £7 something and if I used that to buy food for the children, they'd eat it for two days.

A majority of the professionals stated that the facilities within the unit compounded delays and made communication between departments, and professionals, problematic at times. The unit is located in a separate building from the main cancer treatment area. This meant that it functioned separately from the inpatient wards, general outpatient clinic and pharmacy. Staff working in the chemotherapy unit experienced regular difficulties when trying to communicate between these different sites. As one nurse said:

There's just so many links in the chain that almost inevitably one breaks down. So it's set up to be very difficult to manage.

Coincidentally, the chemotherapy unit was sited in its present location as 'a short-term measure' due to space constraints in the main hospital. Over ten years had passed since then.

The NHS Trust itself was unusual as it has a small local resident population but long standing historical relationships with purchasers outwith central London. It is a provider of cancer services for a high number of such purchasers (50 in total during 1999–2000). As a result, patients attend the chemotherapy unit from an extremely wide catchment area; and may have to travel considerable distances to do so. This situation (which may also occur in other designated Cancer Centres) appeared to magnify the difficulties that staff and patients raised about the current service, as well as its capacity to accommodate change.

### 7.2. Views on home based chemotherapy

All professional respondents were interested (in theory) in the concept of a home-based chemotherapy service. Managers were especially positive in relation to the increasing volume of work currently being undertaken in the outpatient unit. Consultants agreed that patients might prefer to have their chemotherapy at home and they would have liked, where possible, to have been able to offer such a service.

There was also general consensus that the practical difficulties of providing chemotherapy in the home could probably be overcome with adequate planning. The primary concern, however, was the costs involved in first establishing, and then maintaining such a service in the longer term. There was also some doubt about the numbers of patients who could be treated in this way. As one consultant said:

If you had a nurse with a car who was driving around from one patient's house to another, how many patients could she see in the course of the day? And what would that service cost to provide compared with how many patients she could treat in hospital?

As well as doubts about the number of patients who could feasibly be treated in this way, there were general concerns about wider resource issues. For instance, if patients were offered the opportunity to receive chemotherapy at home, the space freed up in the clinic might simply be taken up by new demands. As another clinician said:

You can't take one bit out and leave a gap and not expect it to fill in very quickly. We are more like a beach than a building.

New money would also be required to establish the home-based service and it was felt that such funds might be difficult to secure in the present climate. After-care was also a concern. The skills and expertise of primary care professionals, who would be required to become more involved in supporting patients at home, would have to be taken into account if a home-based service was established.

Perhaps not surprisingly, there was less consensus amongst patients regarding a possible home-based chemotherapy service. Three thought that it might be a 'good idea', as they would not need to make the long, and sometimes difficult, journey to the hospital. Instead they could receive their treatment in familiar surroundings with greater comfort and privacy. As one patient said:

When you have your treatment at home you feel good, you feel better. It would be more relaxed and comfortable to me, especially with my condition.

The remaining two patients expressed concerns about safety, and the expertise and trust they placed in the hospital staff. One respondent had suffered side effects from chemotherapy in the past and valued knowing that these could be dealt with effectively by knowledgeable professionals:

I was so dependent on the hospital, I had so much trust in them that I think I'd rather do it with the nurses and doctors that I knew. I don't know really, I just feel the hospital is the right place to have it, somehow.

This perspective may also reflect a limitation of the study as a relatively small sample of patients was asked to comment on a proposed change that they had not yet experienced. However, the value of seeking such views may help to overcome the well-documented disempowerment and dependence that illnesses like cancer often provoke (Kleinman, 1988; Coulter, 2002). One manager supported this view, but also emphasised the vulnerability that patients may feel when the service is less than perfect:

I think you've also got to accept that there's a group of highly disempowered patients and if you look, for example, at the numbers of complaints that we have in oncology services and contrast them say with women's health or casualty, our complaints are minuscule. And that's not because we offer a completely superb service but because the patients are incredibly disempowered by their disease and actually X number of bed hours, or hours to be seen for chemo, is not a major issue.

The latter point would seem to differ from the patients in this, as well as other, studies when their views are

actually sought on delays and waiting times (Sitzia and Wood, 1998).

### 7.3. *Achieving change*

From the interview data it was also clear that any change to the present service would require leadership and the endorsement of senior managers in the Trust. However, the complex inter-dependent relationship which exists between service purchasers (such as PCTs) and NHS Trusts, means that purchasing decisions exaggerate the static nature of services. The power of any single purchaser is diluted in such a situation. Furthermore, as cancer services form only a part of a wider contracting system, improving the cost-effectiveness of one specific element, such as investing in home based chemotherapy in one locality, would not necessarily be of interest to purchasers who would not directly benefit from it.

A 'champion for change' who has both the status and authority in the organisation was considered crucial if people, and services, were to change significantly. Doctors were seen as especially important in this regard:

There are all sorts of ways to get people to move culturally, get a champion and get a consultant that says, Yes I'm happy for that to happen to my patients. What we all know is that the only person doctors really take the lead from are other doctors. The other thing of course is for the Trust to become more autocratic and say, This is what is happening, It's not open to debate, It's not your responsibility. But Trusts don't generally do that because you can't afford to upset that many people (Manager).

The serendipitous nature of many service developments was also highlighted during the interviews, particularly when talking to those with a management responsibility. As one participant put it:

There's no doubt that developments happen all the time and happen in a way which isn't a structured linear fashion. There's a thought bubble and they go to purchasers and they say that they'd like to do this or that...

However, all the professional respondents highlighted the potential that the recently established Cancer Networks might offer to lead the changes necessary to improve cancer services. For example, a home-based chemotherapy service could best be developed for a particular patient population most appropriately through the local Cancer Network. Indeed, Cancer Networks were perceived as central to many future developments in cancer services. As one of the senior nurses said:

I think the most significant changes, and there might be some quite radical changes, will come from the Network thinking strategically about services across the totality.

However, Cancer Networks will also require accurate cost and information about local NHS cancer services if strategic improvements are to be realised.

#### 7.4. *The costing of services*

There was consensus across the professionals interviewed that the quality and reliability of cost data in the NHS was poor. For example, whilst it might be possible to identify the income received from a purchaser of cancer services, the cost of actually delivering the service was less clear. As one respondent explained:

As soon as you start to look at things like this which involve costs, then you find that your rudimentary approach to valuing things will not stand up.

As an example, a similar charge might be applied to a treatment episode that takes only a few minutes of nursing or medical time to one that involved a more complex multi-agent chemotherapy regimen requiring the close monitoring of a patient. The difficulties of costing NHS services due to the inadequacy, and poor quality, of current financial data are supported in the literature (e.g. Klein, 1998; Enthoven, 2000). Indeed, one participant felt that the poor quality of economic data and cost processing were the most significant reasons that change was so often difficult to argue:

If you look at the detail within that basket and try to look at bits in detail, then you get completely lost because you're not doing that against a background of a similarly worked out bigger picture. I think a lot of change founders on that, because as soon as you want to change a detail then you start to think about the money...otherwise we don't see it very often.

From the cost data that was available, estimates about the present chemotherapy service were calculated. It is important to emphasise, however, that this phase of the study also served to illustrate the limitations of costing processes used in the NHS more generally.

These data took almost 12 months, and repeated requests, to obtain. Limitations within them influenced what could finally be achieved in the study. For instance, medical costs were not routinely calculated per outpatient chemotherapy attendance. Therefore, an estimate had to be made using The New NHS Reference Costs (DoH, 1999), combined with findings from an earlier study conducted by Stevens et al. (1999). It is important to emphasise the limitations of published NHS cost estimations, and the tentative nature of

conclusions that can be drawn from studies relying upon them.

For instance, patient transport and capital costs are flexible resources that could, theoretically, be transferred if a home-based chemotherapy service was successfully established, whilst drugs costs would be unchanged. However, the figures obtained for the capital charge for the outpatient chemotherapy facility itself, which is calculated in terms of loss related to risk (capital depreciation), was put at only £3555. This is also clearly too low, particularly for a space of this size in central London. The average cost per attendance (excluding transport and capital depreciation costs) was estimated at £209. Estimates for medical (£15–74) and transport costs (£1–£10) were then added to this figure. The average cost per attendance then rose to between £225 and £293 (excluding capital costs). Drug costs (£143) were added and eventually accounted for 49–64% of the average cost of each attendance. Finally, a range of nursing and clerical costs were estimated at between 19% and 24%, medical costs at between 5% and 33%, other consumables at 4% and 5% and transport costs at 1% and 4% of the total. Obviously, all costs will have risen since this study was undertaken.

This phase of the study supported the need for greater acknowledgement of the limitations of the current NHS costing processes. For example, it should be made clear when 'blanket' or 'estimated' costs are used to support or refute service changes. Patients treated at home may have benefited by saving money (and quality time) by not having to travel to hospital for a treatment that is usually well tolerated. The transport and capital costs saved could then, theoretically, be transferred into the primary care sector to support these patients at home. In reality, such simplistic solutions appear unrealisable.

Furthermore, there are likely to be additional 'invisible' costs for both patients and service providers that should also be taken into account. Kernick et al. (2000) estimated that the average outlay incurred by patients per medical outpatient attendance was around £15 (including transport, loss of salary and non-wage related costs). Due to higher transport and salary costs, this figure is likely to be even higher within an urban centre such as London. An accurate calculation of the present attendance cost proved to be beyond the scope of this study. This would be needed, however, if a comprehensive cost-benefit analysis were proposed to evaluate an alternative home-based service. Future researchers will also have to address the ambiguity and inconsistency in the current NHS costing processes.

#### 8. Limitations

There were a number of limitations to the study. The literature review cannot be considered wholly



systematic, although the research team did attempt to consider most of the published evidence on this topic. The costings carried out for purposes of comparison were estimated in the manner described, and could be open to alternative interpretations. The small number of patients, with the same diagnosis, must also be taken into account.

It is suggested, however, that this study provided a useful insight into a common problem facing service providers; namely, how we ensure high quality, cost-effective care for our patients? By attempting to address the question of chemotherapy service provision we have presented the views of those who have used it, as well as those who are involved in its delivery. Although the findings may be most relevant at a local level, it is suggested that they exemplify wider issues of cost control and service development in the NHS. One of the enduring obstacles to be overcome is the bureaucratic nature of many NHS organisations, and the lack of clear and accessible costing systems.

## 9. Conclusions

Recent cancer policy initiatives in the UK (DoH, 1997, 2000a,b) have emphasised the importance of combining 'the best' evidence from clinical, and cost effective research studies with the views of service users, to determine the most appropriate ways of providing cancer services. This study provided the opportunity to conduct a detailed examination of one outpatient chemotherapy service, and explored the feasibility of establishing a home-based alternative. In the process, the views of providers, managers, commissioners and users were obtained and combined with an examination of available cost-related data. As a result, the study provided insights into the local organisational culture and evaluated the potential for change in this particular context. On a global scale health providers are being expected to assess the economic efficiency of service developments, whatever funding system underpins health care provision.

Improving practice at a local level is dependent on a number of factors; including cost-effective considerations. However, these findings also emphasised the personal, professional, and organisational motivations that may also determine the extent to which the current modernisation agenda of the NHS is likely to succeed (Garside, 1999). To do so, service developments need to be considered from the perspective of users, health care professionals and managers. Importantly, the study also emphasised the difficulties facing those who attempting to argue the case for cost-based service changes given the inadequate, incomplete and ambiguous state of financial data in the NHS (Klein, 1998).

In light of these findings, there were few incentives to alter the chemotherapy service at present. The level of commitment required did not yet exist in the organisation (Hine, 1999). Without an influential 'change champion' it seemed unlikely that change would be driven forward and professionals appeared to prefer to wait until the new hospital was open to see what might develop. The present contracting process also limited the incentive to alter the current service. A more locally focused service, with a larger proportion of patients from a specific geographical location, might have provided more amenable for a comparative study. Finally, any change to the present chemotherapy service would have needed to be led, and endorsed by, professionals at all levels in the Trust. However, at the time of the study, nursing and medical staff had little control over the way budgets were allocated, or how they were spent. A new management structure has since been introduced with the intention of devolving financial decision making downwards, and by appointing medical directors to influence their colleagues ways of working. In time changing the chemotherapy service may become more feasible.

The establishment the local Cancer Network also provides a new focus for the initiating and implementing service improvements. To date, their impact remains unknown although the Cancer Collaborative (a project approach aimed at reviewing and managing change at the level of cancer service delivery) has also been asked to review the chemotherapy experience at this NHS Trust. Changes have already been suggested to minimise delays and reduce the frustration experienced by the staff working there.

Whilst limited cost and activity data made it difficult to estimate the 'true' cost of the current outpatient chemotherapy service, the experience did emphasise the value of conducting feasibility studies in the context of the NHS. As stated earlier, expediency often prevents planned and systematic change taking place. In light of these findings it was considered inappropriate to proceed to the second phase until more detailed and accurate cost and activity data were available.

Finally, the study illustrated the importance of attempting to combine a financial perspective with the views of users and professionals when service changes are suggested. Cancer Networks now offer the opportunity for identifying further research and audit topics using similar approaches. A danger is that they merely add another layer of bureaucracy and further inhibit change and innovation. Future research should address the current weaknesses in the published literature concerning the provision of cancer chemotherapy at home. Additionally it is important to determine both the economic and individual benefit of cancer service developments. However, all of this will require more reliable cost data that can be combined with the views of

those that actually use, and provide, the service in question.

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